

Form PTO-1390  
(REV 10-95)

U.S. Department of Commerce Patent and Trademark Office

ATTORNEY'S DOCKET NUMBER

FISHER-O-PCT-US

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

**10/070094**INTERNATIONAL APPLICATION NO.  
**PCT/AU00/01015**INTERNATIONAL FILING DATE  
**28 August 2000**PRIORITY DATE CLAIMED  
**27 August 1999**TITLE OF INVENTION: **CLEANING CONVERSION UNIT**APPLICANT(S) FOR DO/EO/US: **Geoffrey Sydney Stott and Murray Lester Cass**

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Article 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19<sup>th</sup> month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ A translation of the International Application into English (35 U.S.C. 371(c)(2))
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☐ has been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3))
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11. to 16. below concern document(s) or information included:**

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.  
A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information: Copy of the International Preliminary Examination Report

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)

**10/070094**

INTERNATIONAL APPLICATION NO.

**PCT/AU99/01022**

ATTORNEY'S DOCKET NUMBER

**FISHER-O-PCT-US**17. ☒ The following fees are submitted:**BASIC NATIONAL FEE (37 CFR 1.492(A)(1)-(5))**Search Report has been prepared by the EPO or JPO ..... **\$890.00**International preliminary examination fee paid to USPTO (37 CFR 1.482) ..... **\$710.00**No international preliminary examination fee paid to USPTO (37 CFR 1.482)  
but international search fee paid to USPTO (37 CFR 1.445(a)(2)) ..... **\$740.00**Neither international preliminary examination fee (37 CFR 1.482) nor  
international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... **\$1,040.00**International preliminary examination fee paid to USPTO (37 CFR 1.482)  
and all claims satisfied provisions of PCT Article 33(2)-(4) ..... **\$100.00****ENTER APPROPRIATE BASIC FEE AMOUNT =****\$1,040.00**Surcharge of **\$130.00** for furnishing the oath or declaration later than  
months from the earliest claimed priority date (37 CFR 1.492(e))20 ☐ 30 ☐

\$0

**CLAIMS****NUMBER FILED****NUMBER EXTRA****RATE**

Total Claims

12-20=

0

X\$18.00

\$0

Independent Claims

1-3=

0

X\$78.00

\$0

MULTIPLE DEPENDENT CLAIM(S) (if applicable)

+\$260.00

\$0

**TOTAL OF ABOVE CALCULATION =****\$1,040.00**

Reduction of 1/2 for filing by small entity, if applicable.

The Applicant requests Small Entity Status by paying the fee for small entity.

\$520.00

**SUBTOTAL =****\$520.00**Processing fee of **\$130.00** for furnishing the English translation later than  
months from the earliest claimed priority date (37 CFR 1.492(f)).20 ☐ 30 ☐

\$0

**TOTAL NATIONAL FEE =****\$520.00**Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be  
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **\$40.00** per property

+

**\$40.00****TOTAL FEES ENCLOSED =****\$560.00**Amount to be  
refunded: \$

Charged: \$

a. ☒ A check in the amount of **\$560.00** to cover the above fees is enclosed.b. ☐ Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees.  
A duplicate copy of this sheet is enclosed.c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to  
Deposit No. **08-3150**. A duplicate copy of this sheet is enclosed.NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and  
granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Daniel J. Hudak, Jr.  
Hudak & Shunk Co., L.P.A.  
7 West Bowery Street, Suite 808  
Akron, Ohio 44308-1133  
(330) 535-2220

*x Daniel J. Hudak Jr.*  
Signature

Daniel J. Hudak, Jr.  
Name

47,669  
Registration Number

**PATENT COOPERATION TREATY  
U.S. RECEIVING OFFICE  
TO THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY**

**Applicant:** Geoffrey Sydney Stott, et al.  
**International Application No.:** PCT/AU00/01015  
**International Filing Date:** 28 August 2000  
**Title:** CLEANING CONVERSION UNIT  
**Agent's Reference No.:** FISHER-O-PCT-US  
**Date:** 27 February 2002

**PRELIMINARY AMENDMENT**

Sir:

Please amend the application as amended March 27, 2001 as indicated below before calculation of the application fees as follows:

**IN THE SPECIFICATION:**

Please amend the application as indicated below.

**Page 2:**

Please insert the following before the first full paragraph:

**FIELD OF THE INVENTION**

This invention is designed to fit most whipper snippers and brushcutters as herein described. Other models may be readily converted by local mower shops.

10070094-022020

Page 2:

Please replace the first full paragraph as follows:

### **BACKGROUND OF THE INVENTION**

It is essential that the "improvements" (ie buildings, driveways, paths, walls, etc.) to real property, and plant and equipment (including vehicles), be properly maintained. Many businesses and individuals have a need for a simple tool that will provide a cost-effective way to effect such maintenance.

Please replace the second full paragraph as follows:

### **SUMMARY OF THE INVENTION**

This new invention offers a powerful hardware attachment solution, which utilizes the mobility of existing small-business and domestic garden devices (such as brushcutters, whipper snippers, grass trimmers and the like), transforming the said device into a powerful multi-purpose tool. Through its high speed rotating action, it is designed to assist in the maintenance and cleaning of surfaces, including but not limited to the removal of paint, dust, moulds, stains, grease and oil, etc.

Page 3:

Please replace the second full paragraph as follows:

### **BRIEF DESCRIPTION OF THE DRAWINGS**

To assist with understanding this invention, diagrammatic references will be made as follows:

Page 4:

Please insert the follows at the top of the page:

**DETAILED DESCRIPTION OF THE INVENTION**

BASE COMPONENTRY (REFER fig. 7, page 8)

Numbered references to the description as follows:

**IN THE CLAIMS:**

This amendment is based upon the claims as amended in the enclosed Preliminary Examination Report.

Please substitute the following claims for the pending claim of the same number.

1. (Amended) An attachment conversion unit designed as a single general inventive concept that is adapted to be attached to the drive shaft of most brushcutters, whipper snipper and other such devices, said attachment conversion unit comprising:  
a drive unit adaptor, a drive unit base and at least one rotary cleaning utensil attachment attached to the base of the cleaning conversion unit.
2. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit adaptor comprises a circular plate with six (6) castellated teeth and wherein the drive unit adaptor has a fixed central square drive shaft with a centered locating hole.

3. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit base is comprised of an enlarged round head with a flat base to which a hook and loop product is attached for the purpose of fixing the various cleaning attachments, wherein the base is approximately 58 millimeters tall, having a top elevation comprising a circular stepped drive socket which has a square drive centrally located at the top of the base unit, and wherein the bottom elevation depicts the attachment fixing surface, and to which, centrally located in circular form, is a recessed (approximately 20 millimeters) fixing surface through which the threaded drive arbor protrudes and to which the locating lock-nut is affixed, securing the invention to the brushcutter device.

4. (Amended) An attachment conversion unit according to claim 1, wherein said at least one attachment is

(a) at least one circular scourer disk having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said disk being a standard plastic and/or nylon which is pre-manufactured by way of interlocking thread and which may be provided in a range of grades of coarseness , or

(b) at least one circular sanding disk having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said disk which is pre-manufactured by way of interlocking woven thread or other treatment and which may be provided in a range of grades of coarseness, or

(c) at least one circular brush head having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said brush head which is pre-manufactured and which may be provided in range of grades of bristles, or

(d) at least one circular mop head having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said mop head which is pre-manufactured, may be provided in a range of grades, or

(e) any other attachment not referred to herein which may by effect utilize the rotary nature of the invention together with the utility and power of the brushcutter, or combinations thereof.

5. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit adaptor is adapted to attach directly to the driving spindle or arbor of the brushcutter or whipper snipper by firstly inserting the arbor in the locating hole of the drive unit adaptor and then by turning and locking the castellated teeth into the notches of the brushcutter spool.
6. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit base is attached to the drive unit adaptor by inserting the male "drive" shaft of the drive unit adaptor into the female "drive" socket of the drive unit base.
7. (Amended) The parts of the total attachment conversion unit according to and described herein in claim 1 as herein described with reference to the accompanying drawings.

Please add new claims 8 through 12 as follows:

8. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the disk to the hook surface of the drive unit base, the disk provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
9. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the sanding disk to the hook surface of the drive unit base, the sanding disk provides on one spherical surface of the sanding disk a compatible material which enables fixation to the hooking mechanism.
10. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the brush head to the hook surface of the drive unit base, the brush head provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
11. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the mop head to the hook surface of the drive unit base, the head provides on one spherical surface of the mop head a compatible material which enables fixation to the hooking mechanism.
12. An attachment conversion unit according to claim 6, wherein the multi-purpose maintenance attachments are attached to the drive unit base by pressing the attachment onto the hook and loop surface of the drive unit base.



The following is a MARKED version of the amended pending claims, specification, and Abstract with all changes shown in conventional comparison.

**IN THE SPECIFICATION:**

Please amend the application as indicated below.

Page 2:

Please insert the following before the first full paragraph:

**FIELD OF THE INVENTION**

This invention is designed to fit most whipper snippers and brushcutters as herein described. Other models may be readily converted by local mower shops.

Please replace the first full paragraph as follows:

**BACKGROUND OF THE INVENTION**

It is essential that the "improvements" (ie buildings, driveways, paths, walls, etc.) to real property, and plant and equipment (including vehicles), be properly maintained. Many businesses and individuals have a need for a simple tool that will provide a cost-effective way to effect such maintenance.

Page 2:

Please replace the second full paragraph as follows:

**SUMMARY OF THE INVENTION**

This new invention offers a powerful hardware attachment solution, which utilizes the mobility of existing small-business and domestic garden devices (such as brushcutters, whipper snippers, grass trimmers and the like), transforming the said device into a powerful multi-purpose tool. Through its high speed rotating action, it is designed to assist in the maintenance and cleaning of surfaces, including but not limited to the removal of paint, dust, moulds, stains, grease and oil, etc.

Page 3:

Please replace the second full paragraph as follows:

**BRIEF DESCRIPTION OF THE DRAWINGS**

To assist with understanding this invention, diagrammatic references will be made as follows:

Page 4:

Please insert the follows at the top of the page:

**DETAILED DESCRIPTION OF THE INVENTION**

BASE COMPONENTRY (REFER fig. 7, page 8)

Numbered references to the description as follows:

**IN THE CLAIMS:**

This amendment is based upon the claims as amended in the enclosed Preliminary Examination Report.

Please substitute the following claims for the pending claim of the same number.

1. (Amended) An attachment conversion unit designed as a single general inventive concept that is adapted to be attached to the drive shaft of most brushcutters, [or] whipper snipper and other such devices, [as the case may be. The] said attachment conversion unit [comprises] comprising:  
a drive unit adaptor, [(and according to and further referred to at CLAIM 2 and CLAIM 5), and] a drive unit base [(and according to and further referred to at CLAIM 3 and CLAIM 6). In addition, the attachment conversion unit also comprises various] and at least one rotary cleaning utensil attachment[s such as, a brush, scourer, sander, mop or other suitable accessory lines as may be developed, which are] attached to the base of the cleaning conversion unit, [(hereinafter referred to as the "attachments" and according to and further referred to at CLAIM 4).]
2. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit adaptor [of the attachment conversion unit according to and referred to in CLAIM 1 and CLAIM 5 herein,] comprises a circular plate with six (6) castellated teeth[. In addition] and wherein the drive unit adaptor has a fixed central square drive shaft with a centered locating hole.

3. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit base [of the attachment conversion unit according to and referred to in CLAIM 1 herein] is comprised of an enlarged round head with a flat base to which a hook and loop product is attached for the purpose of fixing the various cleaning attachments[.], wherein the base is approximately 58 millimeters tall, having a top elevation comprising a circular stepped drive socket which has a square drive centrally located at the top of the base unit[.], and wherein the bottom elevation depicts the attachment fixing surface, and to which, centrally located in circular form, is a recessed (approximately 20 millimeters) fixing surface through which the threaded drive arbor protrudes and to which the locating lock-nut is affixed, securing the invention to the brushcutter device.
4. (Amended) [The attachments of the attachment conversion unit according to and referred to in CLAIM 1 and CLAIM 2 herein comprise:] An attachment conversion unit according to claim 1, wherein said at least one attachment is
- (a) at least one circular scourer[s] [[disks]] disks having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said disk being a standard plastic and/or nylon [disk] which is pre-manufactured by way of interlocking thread and which may be provided in a range of grades of coarseness [(treated).] , or [To enable the proper attachment of the disk to the hook surface of the drive unit base, the disk provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.]
- (b) at least one circular sanding disk having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said [standard] disk which is pre-manufactured by way of interlocking

woven thread [[] or other treatment[]] and which may be provided in a range of grades of coarseness [(treated).], or [To enable the proper attachment of the sanding disk to the hook surface of the drive unit base, the sanding disk provides on one spherical surface of the sanding disk a compatible material which enables fixation to the hooking mechanism.]

(c) at least one circular brush head having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said brush head which is pre-manufactured and which may be provided in range of grades of bristles[.], or [To enable the proper attachment of the brush head to the hook surface of the drive unit base, the brush head provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.]

(d) at least one circular mop head having a diameter of approximately 125 millimeters and a thickness up to 50 millimeters, said mop head which is pre-manufactured, may be provided in a range of grades, or [To enable the proper attachment of the mop head to the hook surface of the drive unit base, the head provides on one spherical surface of the mop head a compatible material which enables fixation to the hooking mechanism.]

(e) any other attachment not referred to herein which may by effect utilize the rotary nature of the invention together with the utility and power of the brushcutter[.], or combinations thereof.

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5. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit adaptor [of the attachment conversion unit according to and referred at CLAIM 1 attaches] is adapted to attach directly to the driving spindle or [(] arbor[)] of the brushcutter [(]or whipper snipper [as the case may be]] by firstly inserting the arbor in the locating hole of the drive unit adaptor and then by turning and locking the castellated teeth into the notches of the brushcutter spool.
6. (Amended) An attachment conversion unit according to claim 1, wherein the drive unit base [of the attachment conversion unit according to and referred to at CLAIM 1 and CLAIM 3] is [then] attached to the drive unit adaptor [referred to at CLAIM 1 and CLAIM 2,] by inserting the male "drive" shaft of the drive unit adaptor into the female "drive" socket of the drive unit base [The multi-purpose maintenance attachments of the attachment conversion unit referred to at claim 1 and claim 4 herein, are attached to the drive unit base by pressing the attachment onto the hook and loop surface of the drive unit base].
7. (Amended) The parts of the total attachment conversion unit according to and described herein in [CLAIMS] claim 1 [through 6] as herein described with reference to the accompanying drawings.

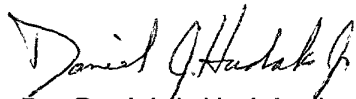
Please add new claims 8 through 12 as follows:

8. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the disk to the hook surface of the drive unit base, the disk provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
9. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the sanding disk to the hook surface of the drive unit base, the sanding disk provides on one spherical surface of the sanding disk a compatible material which enables fixation to the hooking mechanism.
10. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the brush head to the hook surface of the drive unit base, the brush head provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
11. An attachment conversion unit according to claim 4, wherein to enable the proper attachment of the mop head to the hook surface of the drive unit base, the head provides on one spherical surface of the mop head a compatible material which enables fixation to the hooking mechanism.

12. An attachment conversion unit according to claim 6, wherein the multi-purpose maintenance attachments are attached to the drive unit base by pressing the attachment onto the hook and loop surface of the drive unit base.

Respectfully submitted,

HUDAK & SHUNK CO., L.P.A.



By: Daniel J. Hudak, Jr.  
Registration No. 47,669

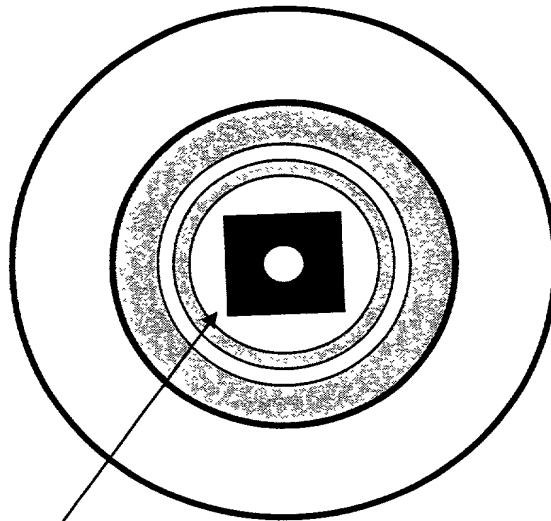
DJH/lb

7 West Bowery Street  
Suite 808  
Akron, OH 44308-1133  
(330) 535-2220

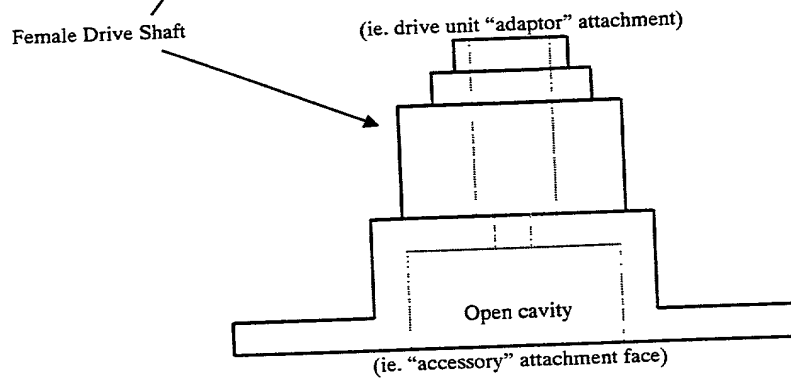
Attorney Docket No.: FISHER-O-PCT-US



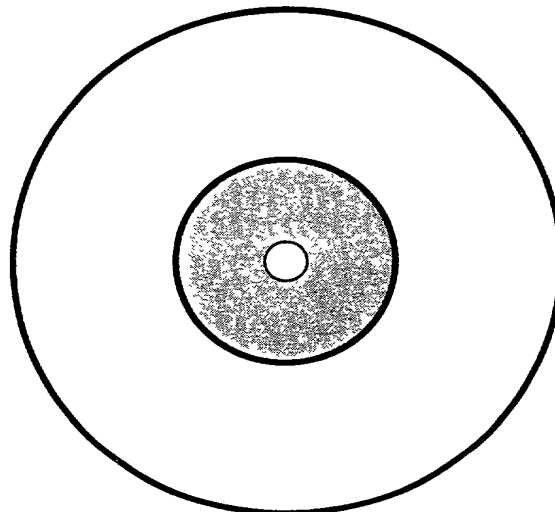
DRIVE UNIT BASE - ELEVATIONS



**Fig 1 : Top Elevation**

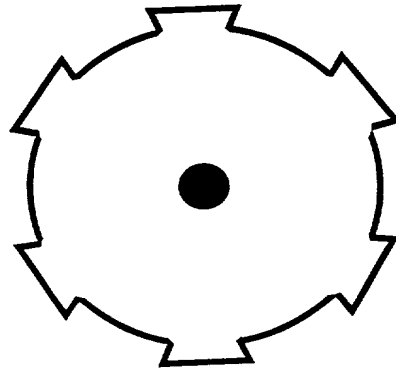


**Fig 2 : Side Elevation**

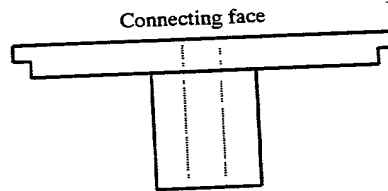


**Fig 3 : Bottom Elevation  
(ie. accessory attachment face)**

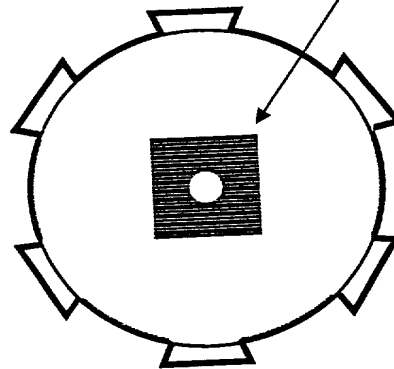
DRIVE UNIT ADAPTER - ELEVATIONS



**Fig 4 : Bottom Elevation  
(Connecting face)**



**Fig 5 : Side Elevation**

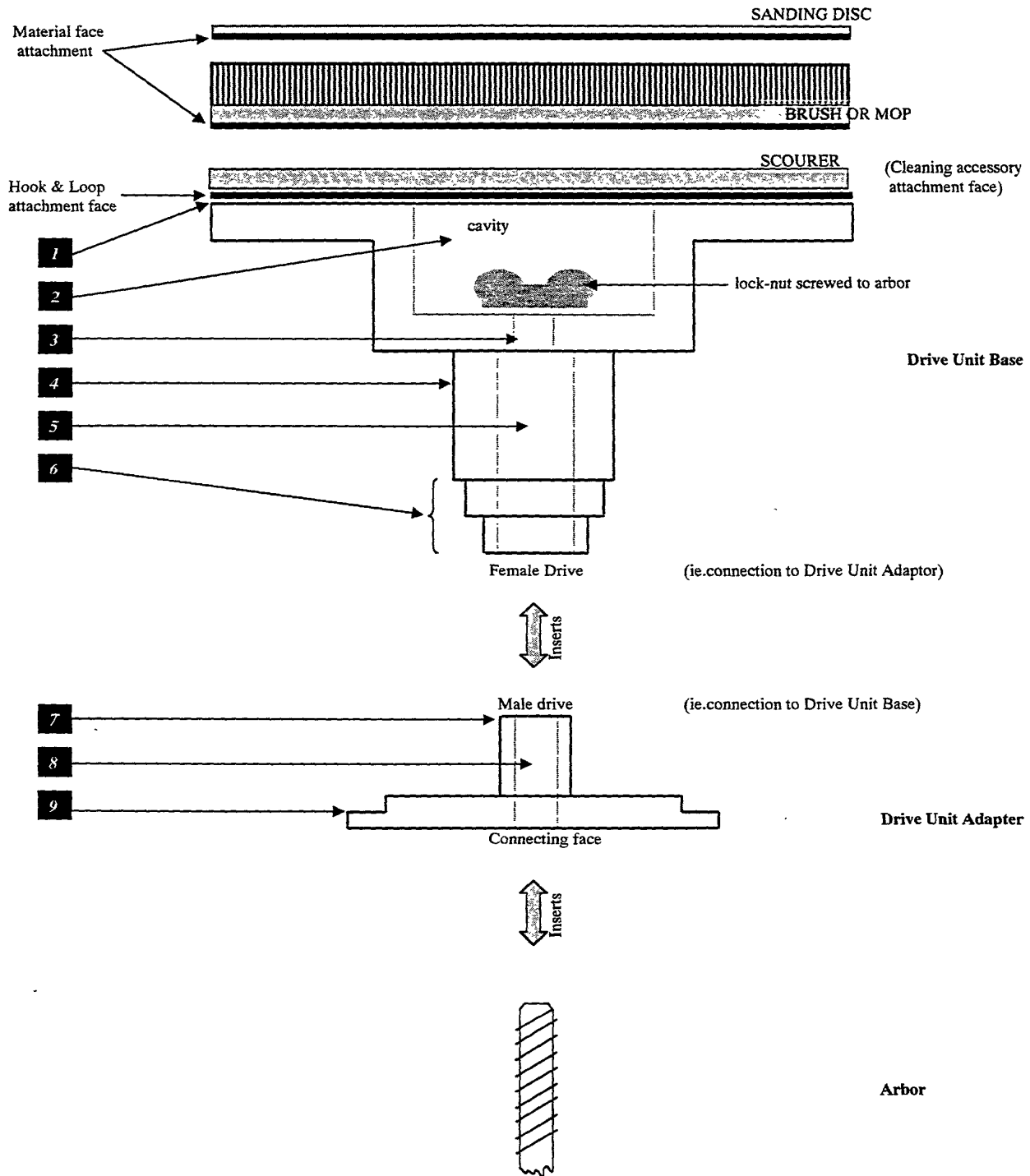


**Fig 6 : Top Elevation (maledrive)**

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## DRIVE UNIT "BASE" &amp; DRIVE UNIT "ADAPTOR" &amp; ACCESSORY LINES - SIDE ELEVATION

Figure 6

AMENDED SHEET  
IPEA/AL

09/070094

AUSTRALIAN PATENTS ACT 1990  
Rec'd PCT/PTO 27 FEB 2002

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**ATTACHMENT CONVERSION UNIT**

(NB. Formally entitled 'Adaptors To Fit Multipurpose Scrubbers To Brushcutters' and 'Cleaning Conversion Unit')

This amended description and design requirements are for an extension of, and to replace the original PCT Application No. PCT/AU00/01015.

---

This invention is designed to fit most WHIPPER SNIPPERS AND BRUSHCUTTERS as herein described. Other models may be readily converted by local mower shops. References to the accompanying explanation and drawings are the sole property of: -

Applicants: **STOCAS AUSTRALIA PTY LTD**  
ACN: 094 270 569

Registered Office: c/- CASS LEGAL GROUP Lawyers,  
58 Railway Street,  
Mudgeeraba, Queensland 4213  
Australia

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The following statement is a full description of this invention, including the best method of operation and performing it known to me:

**ATTACHMENT CONVERSION UNIT**

It is essential that the "improvements" (ie buildings, driveways, paths, walls etc) to real property, and plant and equipment (including vehicles), be properly maintained. Many businesses and individuals have a need for a simple tool that will provide a cost-effective way to effect such maintenance.

This new invention offers a powerful hardware attachment solution, which utilises the mobility of *existing* small-business and domestic garden devices (such as brushcutters, whipper snippers, grass trimmers and the like), transforming the said device into a powerful multi-purpose tool. Through its high speed rotating action, it is designed to assist in the maintenance and cleaning of surfaces, including but not limited to the removal of paint, dust, moulds, stains, grease and oil, etc.

**PRIMARY COMPONENTS**

It is made up of two main components, being a "*drive unit adaptor*" (hereinafter referred to as the "*Adaptor*") (refer Figures 4 – 6 on Page 7 hereto) and a "*drive unit base*" (hereinafter referred to as the "*Base*") (refer Figures 1 – 3 on Page 6 hereto), which enables the fitting of this invention [in replacement of the existing string-line cutting head] to most brushcutters (also known as whipper snippers, grass trimmers etcetera) of differing makes, for the purpose of attaching various forms of either a 'BRUSH, SCOURER, SANDER or MOP and other accessory attachments as the case may be" .

**SIMPLE FITTING INSTRUCTIONS**

The **Adaptor** (if required) and **Base** replaces the flexible string-line cutting head, commonly used in most brushcutters.

The first part of this simple conversion is achieved when the existing head is removed from the brushcutter by unscrewing the central (outer spool) threaded arbor lock-nut. The **base** is designed with a *square-drive* shaft that fits directly onto any brushcutter having a *square-drive arbor*. The **Adaptor** facilitates further conversion to a greater range of Brushcutters, by enabling the **base** to be fitted to devices having the alternative, *hexagonal-drive arbors*. In that case, the male drive of the **adaptor** slides neatly into the female drive of the **base**, utilising the original threaded arbor lock-nut to secure both components. Once the **base** is fitted the brush, scourer, sander, mop or other attachment may be fitted to the **Base** by pressing firmly onto the hook and loop attachment face.

### MATERIALS

The **Adaptor** and the **Base** will be made of compressed or injected polypropylene or nylon to comply with ASA design standards and regulations.

### DIAGRAMS

To assist with understanding this invention, diagrammatic reference will be made as follows:-

**Figure 1, page 6:** Shows the top elevation of the **Drive Unit Base**.

**Figure 2, page 6:** Shows the side elevation of the **Drive Unit Base**.

**Figure 3, page 6:** Shows the bottom elevation of the **Drive Unit Base**.  
Note: This is the face that the accessory line attachments are affixed to.

**Figure 4, page 7:** Shows the bottom elevation of the **Drive Unit Adaptor**.

**Figure 5, page 7:** Shows the side elevation of the **Drive Unit Adaptor**.

**Figure 6, page 7:** Shows the top elevation of the **Drive Unit Adaptor**.

**Figure 7, page 8:** Shows the side elevation of the said components of the invention, being the **Drive Unit Adaptor and the Drive Unit Base**. In addition this figure shows components/suggested accessories attachments that will affix to the head of the Drive Unit Base.

BASE COMPONENTRY (refer fig. 7, page 8)

Numbered references to the description as follows:

A. DRIVE UNIT BASE

- 1 **Base head surface for attachment of cleaning accessories.**  
The cleaning accessories are attached using a unique industrial strength hook and loop product, that enables a firm and secure fix in accord with Australian safety standard requirements.
- 2 **Void internal area for fixing nuts.**  
The internal surface is recessed approximately 20mm (depth) and 50mm (wide) to accommodate different size screws and lock-nuts of differing models of brushcutters.
- 3 **14mm locating hole.**  
The drive shaft incorporates a 14mm centred hole for easy assembling.
- 4 **Outer drive shaft unit.**  
The drive shaft consists of a 34mm circular body (width) by 33mm (length) approximately.
- 5 **19mm square female internal drive.**  
This square female internal drive is compatible to many square drive arbors fitted to straight drive brushcutters.
- 6 **Spacings to Shorten Drive Units (if required).**  
We note that, given the large range of brushcutter devices on the world market, there may be the occasion when the threaded-drive arbor of the particular brushcutter device is not long enough to fully penetrate the *drive unit adaptor* and/or the *drive unit base* (as the case may be), therein allowing the lock-nut (ie. inside the void referred to at Item 2) to be safely secured.

To allow for this, the female drive shaft of the *drive unit base* is configured in three sections or steps (refer Fig. 2, page 6), and is designed to be readily and easily shortened by severing either 5mm or 10mm off the length of the female drive shaft.

**B. DRIVE UNIT ADAPTER****6 lug Drive Unit Adapter.**

The 6 lug Drive Unit Adapter will fit most bent shaft whipper snippers. Installation of this unit will enable conversion of hexagonal drives to square drives, and therein the attachment of the drive unit base by sliding the male drive of the **Adapter** (ie. Item 7) into the female internal drive shaft of the **base** (ie. Item 5).

**7 19mm square male drive.**

This square female internal drive will accept the square male drive of the adapter unit (refer fig. 7, page 8).

**8 11mm locating hole for the adaptor.**

The 11mm hole will centralise the adaptor on the shaft.

**9 Lugs**

The lugs clip into the brushcutter/whipper snipper unit slots, to replace the original head that is then removed.



**ATTACHMENT CONVERSION UNIT**

This invention provides for an extension of the use of brushcutters (also known as whipper snippers and/or grasstrimmers) as an economical conversion to a multipurpose maintenance tool, by the attachment and use of a specifically designed base unit and adaptor (where required), to which various orbital maintenance accessory attachments may be affixed.

The claims defining the invention are as follows:

**CLAIM 1.** An attachment conversion unit designed as a single general inventive concept that is attached to the drive shaft of most brushcutters (or whipper snipper and other such devices as the case may be). The attachment conversion unit comprises a drive unit adaptor (and according to and further referred to at CLAIM 2 and CLAIM 5), and a drive unit base (and according to and further referred to at CLAIM 3 and CLAIM 6). In addition, the attachment conversion unit also comprises various rotary cleaning utensil attachments such as, a brush, scourer, sander, mop or other suitable accessory lines as may be developed, which are attached to the base of the cleaning conversion unit (hereinafter referred to as the "attachments" and according to and further referred to at CLAIM 4).

**CLAIM 2.** The drive unit adaptor of the attachment conversion unit according to and referred to in CLAIM 1 and CLAIM 5 herein, comprises a circular plate with six (6) castellated teeth. In addition the drive unit adaptor has a fixed central square drive shaft with a centred locating hole.

**CLAIM 3.** The drive unit base of the attachment conversion unit according to and referred to in CLAIM 1 herein is comprised of an enlarged round head with a flat base to which a hook and loop product is attached for the purpose of fixing the various cleaning attachments. The base is approximately 58 millimetres tall, having a top elevation comprising a circular stepped drive socket which has a square drive centrally located at the top of the base unit. The bottom elevation depicts the attachment fixing surface, and to which, centrally located in circular form, is a recessed (approximately 20 millimetres) fixing surface through which the threaded drive arbor protrudes and to which the locating lock-nut is affixed, securing the invention to the brushcutter device.

Received 27 March 2001

**CLAIM 4.** The attachments of the attachment conversion unit according to and referred to in CLAIM 1 and CLAIM 2 herein comprise:

- (a) Circular scourers [disks] having a diameter of approximately 125 millimetres and a thickness up to 50 millimetres, said standard plastic and/or nylon disk which is pre-manufactured by way of interlocking hread and which may be provided in a range of grades of courseness (treated). To enable the proper attachment of the *disk* to the hook surface of the drive unit base, the *disk* provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
- (b) Circular sanding disk having a diameter of approximately 125 millimetres and a thickness up to 50 millimetres, said standard disk which is pre-manufactured by way of interlocking woven thread [or other treatment] and which may be provided in a range of grades of courseness (treated). To enable the proper attachment of the *sanding disk* to the hook surface of the drive unit base, the sanding disk provides on one spherical surface of the sanding disk a compatible material which enables fixation to the hooking mechanism.
- (c) Circular brush head having a diameter of approximately 125 millimetres and a thickness up to 50 millimetres, said brush head which is pre-manufactured and which may be provided in a range of grades of bristles. To enable the proper attachment of the brush head to the hook surface of the drive unit base, the *brush head* provides on one spherical surface, a compatible material which enables fixation to the hooking mechanism.
- (d) Circular mop head having a diameter of approximately 125 millimetres and a thickness up to 50 millimetres, said mop head which is pre-manufactured, may be provided in a range of grades. To enable the proper attachment of the *mop head* to the hook surface of the drive unit base, the head provides on one spherical surface of the *mop head* a compatible material which enables fixation to the hooking mechanism.
- (e) Any other attachment not referred to herein which may by effect utilise the rotary nature of the invention together with the utility and power of the brush cutter.

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- CLAIM 5.** The drive unit adaptor of the attachment conversion unit according to and referred to at CLAIM 1 attaches directly to the driving spindle (arbor) of the brushcutter (or whipper snipper as the case may be) by firstly inserting the arbor in the locating hole of the drive unit adaptor and then by turning and locking the castellated teeth into the notches of the brushcutter spool.
- CLAIM 6.** The drive unit base of the attachment conversion unit according to and referred to at CLAIM 1 and CLAIM 3 is then attached to the drive unit adaptor referred to at CLAIM 1 and CLAIM 2, by inserting the male "drive" shaft of the drive unit adaptor into the female "drive" socket of the drive unit base. The multi-purpose maintenance attachments of the attachment conversion unit referred to at CLAIM 1 and CLAIM 4 herein, are attached to the drive unit base by pressing the attachment onto the hook and loop surface of the drive unit base.
- CLAIM 7.** The parts of the of the total attachment conversion unit according to and described herein in CLAIMS 1 through 6 as herein described with reference to the accompanying drawings.

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ANNEXURE 1

SCALE 1:100

SIDE ELEVATION

FIGURE I AND II

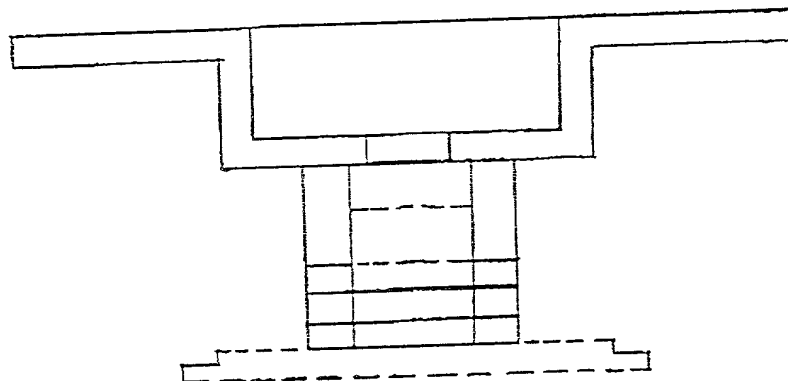


Figure 1

DRIVE  
UNIT  
BASE

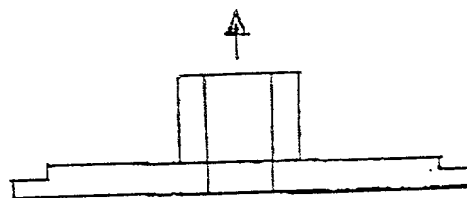


Figure 2

DRIVE  
UNIT  
ADAPTER

10/070094-600/001

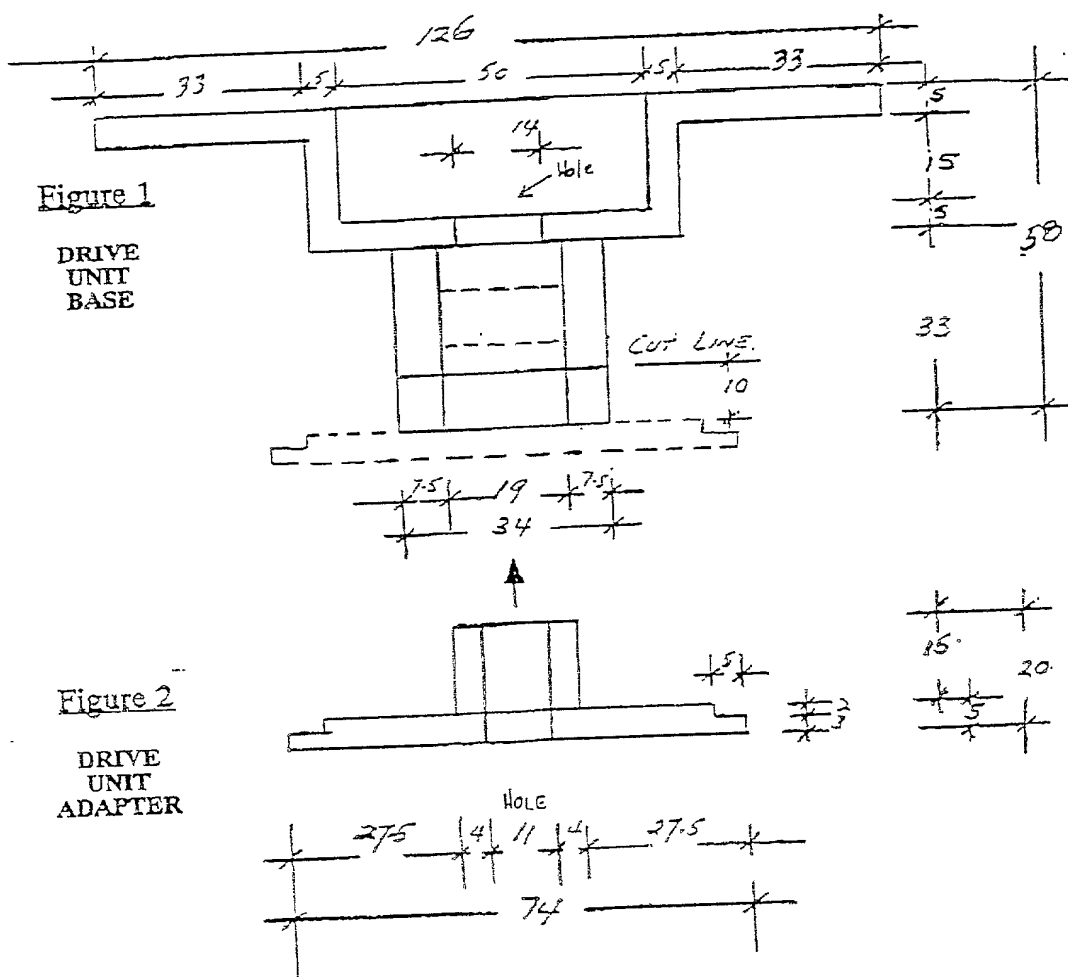
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ANNEXURE 2

SCALE 1:100

SIDE ELEVATION  
MEASUREMENTS

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ANNEXURE 3

SCALE 1:100

TOP ELEVATION

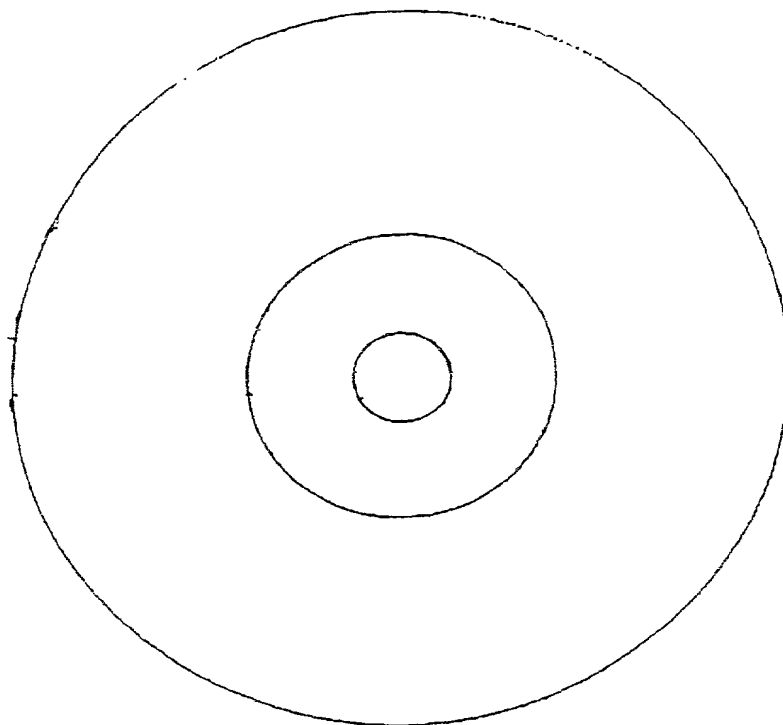


Figure 1

DRIVE  
UNIT  
BASE

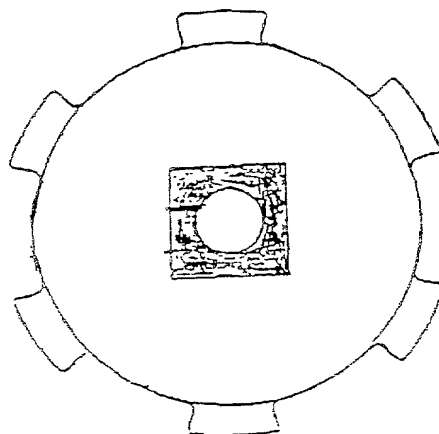


Figure 2

DRIVE  
UNIT  
ADAPTER

20/220\*4600/001

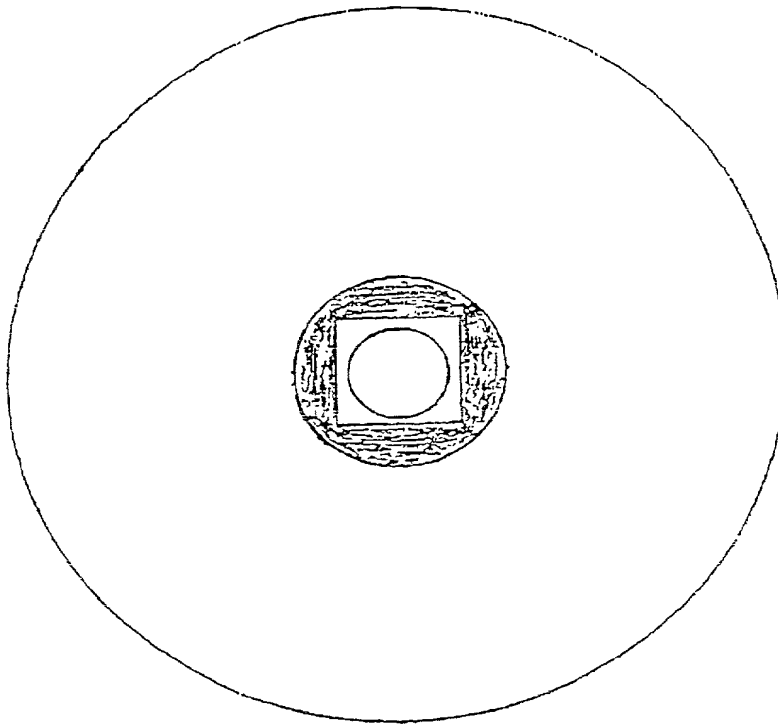
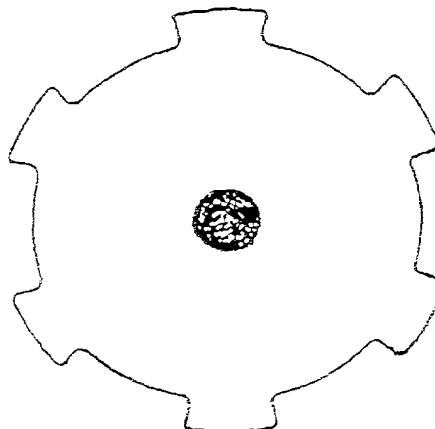
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ANNEXURE 4SCALE 1:100

BOTTOM ELEVATION

Figure 1DRIVE  
UNIT  
BASEFigure 2DRIVE  
UNIT  
ADAPTER

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ANNEXURE 5

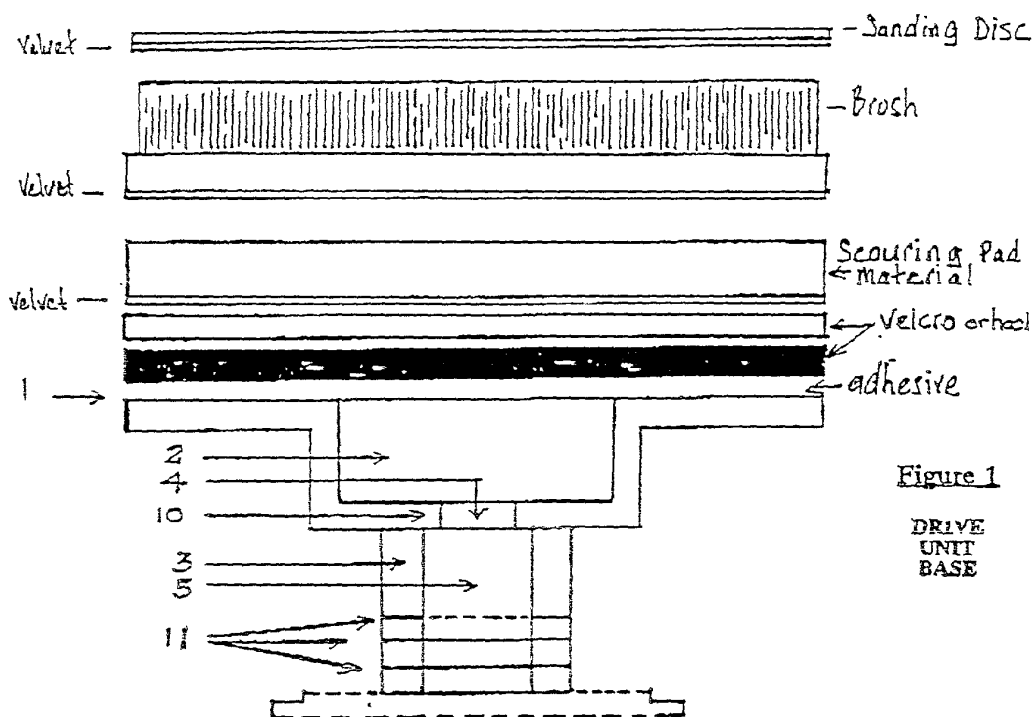


Figure 1

DRIVE  
UNIT  
BASE

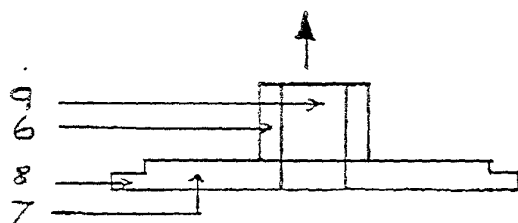


Figure 2

DRIVE  
UNIT  
ADAPTER

10/070094-000002



## DECLARATION

Page 2

I hereby claim the benefit under Title 35, United States Code § 120 of any United States application(s), or § 365(c) of any PCT International Application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date (MM/DD/YYYY)	Parent Patent Number (if applicable)

As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:

Name	Registration Number	Name	Registration Number
HUDAK, Daniel J.	25,879	FARINE, Cheryl L.	36,796
SHUNK, Laura F.	31,423	CREHORE, Charles A.	27,628
TYRPAK, Michele M.	42,192		
ROTE, Frank C. Jr.	20,394		
SHUST, Nestor W.	23,034		

Direct all correspondence to:

Name	HUDAK & SHUNK CO., L.P.A.		
Address	7 West Bowery Street, Suite 808		
Address			
City	Akron	State	Ohio
Country	US	Telephone	330-535-2220
		Pax	330-535-1435

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name of Sole or First Inventor:

☐ A petition has been filed for this unsigned inventor

Given Name	GEOFFREY	Middle Initial	S	Family Name	STOTT	Suffix e.g. Jr.	
Inventor's Signature						Date	
Residence: City	MUDGEERABA	State	QUEENSLAND	Country	AU	Citizenship	AU

Post Office Address: PO Box 488

Post Office Address:

City	MUDGEERABA	State	QUEENSLAND	ZIP	4213	Country	AU
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Name of Additional Joint Inventor, if any:

☐ A petition has been filed for this unsigned inventor

Given Name	MURRAY	Middle Initial	L	Family Name	CASS	Suffix e.g. Jr.	
Inventor's Signature						Date	February 27, 2002
Residence: City	MUDGEERABA	State	QLD	Country	AU	Citizenship	AU

Post Office Address: PO Box 488

Post Office Address:

City	MUDGEERABA	State	QLD	ZIP	4213	Country	AU
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<b>DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION</b>	Attorney Docket Number	Fisher-O-PCT-US
	First Named Inventor	STOTT, Geoffrey Sydney
	COMPLETE IF KNOWN	
	Application Number	
	Filing Date	
	Group Art Unit	
<input checked="" type="checkbox"/> Declaration Submitted with Initial Filing	OR	<input type="checkbox"/> Declaration Submitted after Initial Filing
	Examiner Name	

As a below named inventor, I hereby declare that:

My residence, post office address, and citizenship are as stated below next to my name.

I believe I am the original, first, and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**CLEANING CONVERSION UNIT**

(Title of the invention)

the specification of which:

- ☐ Is attached hereto  
OR  
☒ was filed on (MM/DD/YYYY) 08.28.2000 as United States Application Number or PCT International Application Number PCT/AU00/01015 and was amended on (MM/DD/YYYY) 03.27.2001 (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37 Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 37, United States Code § 119 (a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365 (a) of any PCT International application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
PQ2473	AUSTRALIA	08.27.1999	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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I hereby claim the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below:

Application Number(s)	Filing Date (MM/DD/YYYY)

20020220 16004001

Attorney Docket No.: FISHER-O-PCT-US